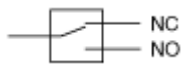


## **Relay nomenclature explained.**

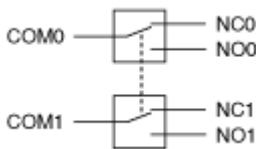
Relays are classified by their number of poles and number of throws. The pole of a relay is the terminal common to every path. Each position that the pole can connect to is called a throw. A relay can be made of  $n$  poles and  $m$  throws. For example, a single-pole single-throw relay (SPST) has one pole and one throw, as illustrated in the following figure.



A single-pole double-throw (SPDT) relay has one pole and two throws, as illustrated in the following figure:



A double-pole double-throw (DPDT) relay has two poles, each with two simultaneously controlled throws, as illustrated in the following figure:



Relays are then classified into forms. Relay forms are categorized by the number of poles and throws as well as the default position of the relay. Three common relay forms are: A, B, and C.

### **Form A**

Form A relays are SPST with a default state of normally open.



### **Form B**

Form B relays are SPST with a default state of normally closed.



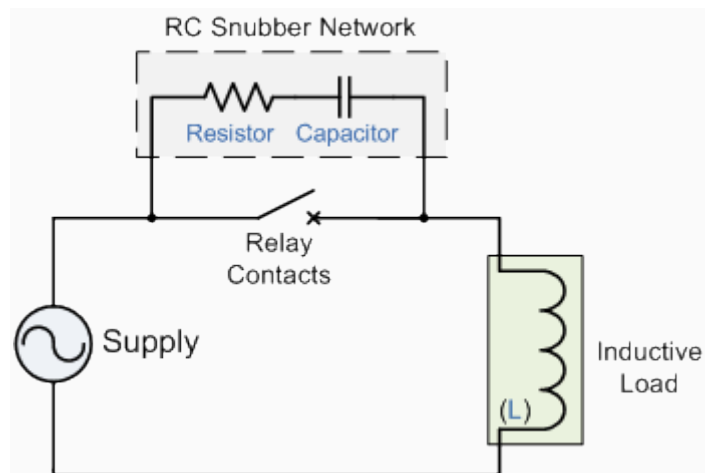
### **Form C**

Form C relays are SPDT and break the connection with one throw before making contact with the other (break-before-make).

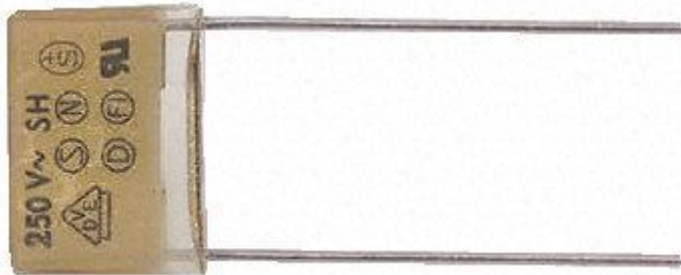


Relay manufacturers data sheets give maximum contact ratings for resistive d.c. loads only and this rating is greatly reduced for either AC loads or highly inductive or capacitive loads. In order to achieve long life and high reliability when switching AC currents with inductive or capacitive loads some form of arc suppression or filtering is required across the relay contacts. This is achieved by connecting a **RC Snubber** network in parallel with the contacts. The voltage peak, which occurs at the instant the contacts open, will be safely short circuited by the RC network, thus suppressing any arc generated at the contact tips.

### Relay Snubber Circuit



### Typical Snubber that can be used



#### PMR209 PCB mount,0.047uF 100R,250Vac

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